What is claimed is:

1. A WLAN (Wireless Local Area Network) device having a smart antenna system, comprising:

a plurality of WLAN transceiver modules; and

a plurality of directional antennas, respectively installed on said WLAN transceiver modules in an one-to-one correspondence, wherein said directional antennas are equally spaced apart in an annular array, and each of said directional antennas is responsible for the communication of a plurality of users in a cell.

2. The WLAN device having the smart antenna system according to claim 1, wherein the specification of each of said WLAN transceiver modules is selected from a group consisting of IEEE802.11a, IEEE802.11b, IEEE802.11g and an arbitrary combination thereof.

3. The WLAN device having the smart antenna system according to claim 1, wherein said WLAN device is selected from a group consisting of an access point, a gateway, a wireless switch, a wireless hub, a wireless switching hub and a wireless switching router.

4. The WLAN device having the smart antenna system according to claim 1, comprising a CPU.

5. The WLAN device having the smart antenna system according to claim 4, comprising a plurality of interface elements used for respectively connecting said CPU to said

WLAN transceiver modules.

6. The WLAN device having the smart antenna system according to claim 5, wherein each of said interface elements is selected from a group consisting of a PCI (Peripheral Component Interface), a mini PCI, PCMCIA (Personal Computer Memory Card International Association) and a Cardbus interface.

7. A WLAN device having a smart antenna system, comprising:

a plurality of WLAN transceiver modules; and

a plurality of array antennas, respectively installed on said WLAN transceiver modules in an one-to-one correspondence, wherein each of said array antennas is composed of a plurality of omni-directional antennas, and the radiation patterns of said array antennas are controlled to be directional radiation patterns, and each of said array antennas is responsible for the communication of a plurality of users in two opposite cells.

8. The WLAN device having the smart antenna system according to claim 7, wherein said omni-directional antennas are a plurality of dipole antennas.

9. The WLAN device having the smart antenna system according to claim 7, wherein the specification of each of said WLAN transceiver modules is selected from a group consisting of IEEE802.11a, IEEE802.11b, IEEE802.11g and an arbitrary combination thereof.

10. The WLAN device having the smart antenna system according to claim 7,

wherein said WLAN device is selected from a group consisting of an access point, a gateway, a wireless switch, a wireless hub, a wireless switching hub and a wireless switching router.

11. The WLAN device having the smart antenna system according to claim 7, comprising a CPU.

12. The WLAN device having the smart antenna system according to claim 11, comprising a plurality of interface elements used for respectively connecting said CPU to said WLAN transceiver modules.

13. The WLAN device having the smart antenna system according to claim 12, wherein each of said interface elements is selected from a group consisting of a PCI (Peripheral Component Interface), a mini PCI, PCMCIA (Personal Computer Memory Card International Association) and a Cardbus interface.

14. A smart antenna system, comprising:

a plurality of directional antennas, respectively installed on a plurality of WLAN transceiver modules in an one-to-one correspondence, wherein said directional antennas are equally spaced apart in an annular array, and each of said directional antennas is responsible for the communication of a plurality of users in a cell.

15. The WLAN device having the smart antenna system according to claim 14 wherein the specification of each of said WLAN transceiver modules is selected from a group consisting of IEEE802.11a, IEEE802.11b, IEEE802.11g and an arbitrary

combination thereof.

16. The WLAN device having the smart antenna system according to claim 14, suitable for use in a WLAN device, wherein said WLAN device is selected from a group consisting of an access point, a gateway, a wireless switch, a wireless hub, a wireless switching hub and a wireless switching router.

17. The WLAN device having the smart antenna system according to claim 16, wherein said WLAN device comprises a CPU.

18. The WLAN device having the smart antenna system according to claim 17, wherein said WLAN device comprises a plurality of interface elements used for respectively connecting said CPU to said WLAN transceiver modules.